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ABSTRACT

A study investigated one major aspect of the process of writing in a second language (L2), surface error correction, and two related issues. The main research questions included: whether (1) L2 writers were preoccupied with surface error correction during the generation of text; and (2) whether this regular interruption of the composing process resulted in poorer writing quality. Two additional questions were whether L2 writers' perceptions of their behaviors accurately reflect observed behaviors and whether there are significant differences in fluency of composition of Polynesian and Chinese students. Subjects were four Chinese and four Polynesian students at an English language institute in Hawaii. Data were collected in the classroom by external observation of the composing process and student self-report, using instruments adopted or designed for this study. Writing samples were essays written in class and evaluated with a holistic scoring system by two trained raters. Results indicate wide variation in amount of surface error correction occurring during initial writing, although the interruptions that occurred did appear to interfere with writing quality. No correlation was found between observed and self-reported writing behaviors, and no statistically significant differences were found between ethnic groups. It is concluded that fluency does have a positive influence on writing quality. (MSE)

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L2 Writing Fluency: A Pilot Study

To use the words of Raimes (1983), there has been a "paradigm shift" in the world of second language writing and acquisition in general (though the term "paradigm" is controversial; North, 1987). The shift has moved the focus of concern from the products of programs and methodologies to the interlanguage systems and processes of the learners. This shift, arguably, has been most influential in the area of L2 writing, bringing with it a mandate for research into the writing processes, strategies and behaviors which lead L2 writers to their final products. The "shift" began however in studies of first language (L1) composition processes, several of which are briefly reviewed below.

L1 Composition Studies

The landmark study in composing processes done by Emig (1971) set the field of composition on its ear, providing empirical evidence in contrast with much of what was assumed and preached in the composition texts at the time. Emig observed eight twelfth graders several times each while they composed essays, and in addition gathered think-aloud data and considerable demographic information about the subjects, schools, and teachers. The following represent several of the major conclusions of that study:

1. The five paragraph theme is a figment of teachers' imaginations. Good writers everywhere, even in their earliest writings, have never used this model when writing. Writing, it would seem, is neither monolithic, tri-partite, nor linear.

2. Composition teachers rarely do any serious writing themselves, thus

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having relatively little recent personal experience with composing processes. As a result, they "underconceptualize" or simplify the process. In Emig's words, "planning degenerates into outlining; reformulating becomes the correction of minor infelicities" (p.98).

3. In addition, the focus on product errors results in far too little progress. Much of the teaching of composition is "essentially a neurotic activity" (p.99) causing students to be too much concerned with surface errors as the expense of overall quality of the composition.

Since Emig's study, there have been a number of other L1 studies of similar nature with subjects of average or above average ability, confirming the major conclusion that the process of writing is recursive rather than linear (e.g., Mischel, 1974; Morgan & Morgan, 1975; Seaman, 1975). These studies also agreed in concluding that instruction had resulted in writers who engage in little or no planning prior to writing, and generally perceive revision as the process of searching for and correcting mechanical errors.

Later studies such as those of Pianko (1979), Perl (1979) and Blake (1980) focused on unskilled or basic L1 writers with similar results. Pianko, using an observed behavior protocol, noted that unskilled writers truncated the writing process even more severely than the average writers described in previous studies.

Perl (1979) advanced the field by noting that there was a methodological limitation to observational case study work done up to that time, in that these studies failed to adopt a standardized scheme for the protocols, making it difficult to obtain comparability across studies, and cumulative progress for

the field overall. A portion of her study was dedicated to the construction of a tool by which observed behaviors could be coded in standardized fashion.

Perl's observations of unskilled writers revealed that unskilled writers' composition processes are also recursive. Teachers need not assume that unskilled writers simply need to be taught the correct manner in which to write. But Perl did note an inappropriate emphasis on surface errors. This emphasis caused some writers to produce no more than a sentence at a time without stopping to proofread. This is a symptom one might label disfluency, similar in effect to Krashen's monitor overuser--a learner who speaks haltingly as a result of an extreme obsession with correct surface form. As one might expect, this practice was found to inhibit the development and quality of ideas.

L2 Composition Studies

Taking their cue from the L1 research, several L2 researchers and practitioners began to preach "process." There were a number of questions to be answered, among which are the following: Is the process of fluent writing the same in L1 and L2? Are L2 writers similar in behavior and approach to unskilled L1 writers? Is writing instruction in L1 contexts similar to that in L2 situations?

There have been a number of articles and process-oriented studies in the L2 literature during the past 15 years. Zamel (1976) broke ground by summarizing some of the results of L1 studies of the 60's and early 70's which established once and for all that formal grammar study did little to improve the overall quality of student writing.

Raimes' now classic "paradigm shift" article (1983) was the next major milestone in our growing awareness of process research being conducted with L1 writers. Many L2 practitioners responded to the challenge and began investing their futures in process-oriented approaches.

During this same year, Zamel, in the spirit of Emig, published an article in which she described the composing processes of 6 ESL students. Zamel's case studies revealed that composing in the L2 was a process of discovery, and by no means linear. The least skilled writer of the six seemed to view writing differently however. To this particular writer, writing was seen as a static series of parts--words, sentences, and paragraphs. This writer edited her writing throughout, much like the subjects in Perl's study (1979). reflecting a constant preoccupation with usage, and correct form. Other aspects of revision were not entertained by this writer. Successive drafts of the first sample were simply neater copies of the first draft.

Zamel's case studies spurred a number of other attempts to describe what L2 writers of varying abilities do when they write (e.g. Arndt, 1987; Liebman-Kleine, 1987; Raimes, 1985; Spack 1984). The case studies, as Arndt put it, "suggest that L2 composing, despite the additional linguistic burdens involved, are very similar to L1 composing" (1987; 258).

Despite areas of progress, however, Diaz (1986) summarized the L2 writing field succinctly in the following words:

1. It is heavily focused on instruction in grammar and syntax.
2. It is error-correction oriented.
3. It is product-centered.

Such a summary reveals the obvious need for continual "preaching," as well as further research.

Research Questions

Several interesting avenues of investigation present themselves in light of studies to date: the use of L1 during L2 composition, the fluency of composing, and the varying approaches to revision, to name a few.

One of the interesting patterns which seems to be true of both unskilled L1 writers and unskilled L2 writers is their inordinate preoccupation with surface form correction, a significant portion of it taking place as one is composing. One would expect, as with Perl's subjects, that the quality of the content of the written work would suffer. This pilot study attempted to look at this very issue. In connection with this, the author had two main questions:

1. Do the L2 writers observed in this study exhibit a preoccupation with surface error correction during the process of composing (i.e. generation of text)?
2. If so, is this regular interruption of the composing process reflected in poorer quality writing with regard to several dimensions of holistic scoring of the written samples.

In addition were two side-issues:

3. Are L2 writers' perceptions of their writing behaviors accurate reflections of their actual observed behaviors? (Is self-report data reliable for this area of investigation?)
4. Are there any significant differences in the fluency of composing (and perceptions of such) between Polynesian and Chinese students.

This final question evolved from a review of research in L2 writing by Krapels (1990). Krapels summarizes the research to date as clearly defining how L1 and L2 writing processes are similar. She indicated that the research has not done so well in demonstrating how these two processes may be different. To accomplish this, she suggests looking at the roles of native language and native culture in L2 composition. With regard to culture, one would expect a certain amount of strategy transfer, and well as transfer of culturally-defined attitudes and expectancies.

METHOD

Subjects

Several teachers in the BYU-Hawaii English Language Institute were interviewed and finally one advanced class was chosen which had a fair number of both Chinese and Polynesian students.

Students

In all, 4 Chinese and 4 Polynesian students were observed. Originally, it had been decided to observe all females (there was only one Polynesian male in the class) . However, on the final day of observation, the remaining Chinese female did not show up, and consequently, the author was forced to observe one Chinese male.

Also a factor in choosing this particular class was the fact that each week, one class session was devoted to the writing of an in-class essay. This schedule allowed for the observation of the eight subjects, two by two, each week over a period of four weeks.

Teacher

The writing instructor, raised in Rhodesia and South Africa, educated both at home and in the United States, was in his first year of full-time ESL instruction.

Materials

The data was collected by way of observation and self-report, requiring the adoption of an observation measure and development of a questionnaire.

Observation Instrument

There are several process-tracing methods used in the study of writing. These include behavior protocols, retrospective reports, directed reports, and think-aloud protocols. (Hayes & Flower, 1983) As this was a pilot study (i.e. without funding), it was decided that behavior protocol analysis would be the most appropriate. It was hoped that significant results in this study would argue for a more detailed and thorough study in the future.

The initial instrument was patterned after that used by Perl (1979), and Pianko (1979) who both observed and video-taped similar groups of writers in similar instructional settings. Since the focus of this study was narrower than theirs, several of the behaviors in their protocols were discarded. Because invention strategies were not the focus of this study, the simple term prewriting/outlining (PO) was used during that stage of observation. (Indeed, it may be said that if students did use a pre-writing strategy at all, it usually was in the form of outlining, as the teacher's instructions were fairly prescriptive in this regard.)

In addition to PO, several other behaviors were recorded. These included

thinking ("pause filled"-PF), distraction ("pause unfilled"-PU), writing (generation of text-GT), re-scanning portions of text (Rs), re-reading entire text (RR), and revision of text (RT). These writing process behaviors were coded on a time line (See Appendix A for a list of observation codes.)

Questionnaire

A questionnaire was developed which used a four-point Likert scale. Subjects were asked to answer each question by placing an "X" under the descriptor which best described them or their opinion: "always", "often", "sometimes", "almost never." (e.g., "I waste too much time before I start writing") Altogether there were 25 items on the questionnaire, eliciting information of various aspects of their perceived composing behavior and attitudes about composition. (See Appendix B for a copy.)

For the purposes of this study, however, only 9 items will be analyzed. Two of the items are directed at the focus of revisions, and 7 items are concerned with the nature and frequency of the revision process during composition. These latter 7 items were constructed to elicit information concerning the perceived fluency of their composing behavior. The information was compared to the observed behavior data (results to be discussed in the following section.)

Writing Samples

In addition to the above-mentioned process-oriented indices of writing behavior, access was gained to the essays written at the time each subject was observed. Each essay was rated holistically by two trained raters (details in the analysis section). Scores on the writing samples would allow

for the analysis of the relationship between composing behaviors and writing proficiency: an empirical look at the correlation between process and product.

Procedures

In discussion with the instructor, it was agreed that I would visit each Monday for four weeks, observing two subjects each time. The instructor introduced me the first day and indicated that I was there to observe the class from time to time. No further details of my purpose were given. At the end of the 50-minute period, when all essays were handed in, the two subjects who were observed were approached and asked if they would fill out the questionnaire. (The subjects were not aware of who was being observed on any given day.) The questionnaire was normally returned the next day to the instructor. Immediately after each class period, copies were made of the observed students' written essays.

Analyses

Observation data

Prior to a detailed analysis of the data, it was necessary to investigate the reliability of the observation scheme. This required that one other observer be asked to use the protocol guide in an observation session. Both the author and another rater (part-time remedial writing instructor) observed a video-tape of an L2 writer composing an essay. This L2 writer was not one of the eight subjects included in the study as it was felt that the placement of a camera in front of one of the subjects may have affected composing behavior.

The results of this reliability check revealed a 77.5% agreement rate between the two raters in the identification of observed writer moves. More

importantly, for the purposes of this study, there was a 95% agreement on the identification of sequences of moves.

A careful comparison revealed that the major difference derived from the fact that the first rater (the author) identified 19 moves not identified by the second rater. Since the second rater identified only one move not indicated by the first, it became clear that the second rater was not applying the protocol as accurately as could be.

Further analysis of the missed behaviors by rater #2 indicated one major error category. The second observer correctly identified the pauses or rescans which begin each writing sequence, but on at least 7 occasions failed to identify writing behaviors marking the sequence-final positions. In addition, near the end, the second observer failed to record the sequence-initial moves in the Reread-revise sequences which characterize the final minutes of the writer's efforts. A follow-up conversation with the second rater, confirmed that she was somewhat "distracted" by other concerns at the time, thus offering an explanation for a number of the missed observations. In sum, this would appear to indicate only a slight violation of the protocol system and not a reflection on the system itself).

With reasonable confidence in the reliability of the instrument, the data was then analyzed in several different ways. It was decided that simple counts of individual moves would yield little if any interesting data. In lieu of moves (e.g, Rs, PO, GT, etc), it was felt that the coded data should be analyzed in sequences of moves. With this in mind, it was decided to insert dividing lines after each pause--writing sequence. A pause was defined as any

non-writing behavior (PF, PU, RR, Rs) and writing was defined as any of the following: PO, GT, RT. The following represent several of the many possible sequence types. (See Appendix C for a sample timeline coded for sequences.)

PF - PO : thinking followed by notes or outlining

PF - GT : thinking following by writing (generation of text)

Rs - RT : rescanning of text with ensuing revision (e.g crossing out, insertion of word or phrase, etc)

PF - PU · PF - GT : thinking, momentary distraction, thinking, writing

The written sample was then described in terms of the number of sequences given to the pre-writing, writing, and revision aspects of composition. These were not necessarily linear (though it turned out to largely be so, due to the prescriptive instructions of the writing instructor).

Questionnaire Data

To begin with, the author was forced to work with only seven sets of questionnaires. Despite several requests (and one small bribe), no questionnaire was forthcoming from the lone male subject.

Repeated administrations of the questionnaire allowed us to ascertain the stability of the individuals' responses to the questionnaire items across time (only the last two observed subjects were not required to retake the questionnaire at a later date). With the exception of one subject, the percentage of responses remaining stable for each subject was approximately 80%.

The reliability of the questionnaire seemed fairly encouraging, as the subjects' perceptions of themselves were quite stable. And insofar as the 4-week observation period is concerned, this stability would imply that these

perceptions are more or less impervious to the influence of instruction (but that's another story!). This response stability allowed us to assume that those who were asked to answer the questionnaire later in the observation period would have given similar answers had they been given the questionnaire earlier.

Writing Sample Data

A modified holistic scoring system based on the Jacobs *et al* (1931) system was used for the rating of the writing samples. Each writing sample was scored independently by two trained raters, and the two scores for each of the five component scales and the total scale were averaged. (Overall inter-rater correlation was .915, resulting in a reliability coefficient of .956)

RESULTS

Observation Data

Table 1 contains a summary of the various descriptive measures taken from the observations.

Table 1 about here

Table 2 contains group means by cultural background of the several measures considered of most interest.

Table 2 about here

Although at first glance there seem to be some differences between members of the two cultural backgrounds, multivariate analyses revealed them to be statistically insignificant, contrary to the author's expectations.

Questionnaire data

Of the 25 items on the questionnaire, nine were analyzed for information pertinent to the purposes of this study. The purpose of the questionnaire items was to look at the degree to which the subjects' perceptions matched their observed behaviors. (There has traditionally been discussion in the field of education generally concerning the usefulness of self-report data.)

In particular, items 4, 11, 12, 17, 20, 21, & 22 asked the individual to respond to statements regarding composition fluency. The questions asked the subject to evaluate how accurately statements such as the following were characteristic of themselves, for example;

#12. While I'm writing, I often reread what I have written to check for grammar and word choice.

#22. When I begin writing, I try not to stop until I am finished and ready to proofread.

Items 5 and 8 elicited responses concerning the focus of proofing and revising. (Recall that the literature to date indicates that far too many writers are being led to believe that revising entails nothing more than a search for errors in mechanics or syntax.)

Contrary to expectations, there were no apparent cultural differences on any of the items. Individual variation within culture groups was widespread enough to not warrant any formal analysis of mean differences between groups. Individuals from each culture group were spread across the entire continuum of response options on most every question (with the exception of items 11 and 17).

Responses to item #11 indicate that the Polynesian subjects did not agree with the statement that they used their dictionary only *after* finishing the composition. This may seem to indicate that they use it more during the composition process (a sign of disfluency). However, observational data indicates that the full truth lay in the fact that the Polynesian subjects disagreed with this statement because they did not use a dictionary at all. (A nice illustration for the advisability of triangulation in data gathering!)

Responses to item 17 offer the only clear trend across all subjects. All subjects, both Chinese and Polynesian, agreed that they follow a strict schedule when they write (i.e., planning-->writing-->proofreading). That is, they hold the belief that writing is a linear step-by-step process.

Writing Sample Data

Overall mean scores for the Chinese and Polynesian groups were 80.25 and 66.88 respectively. A simple t-test indicated that the Chinese subjects' overall mean score was significantly higher than that of the Polynesians ($p < .02$). This is surprising given that all subjects were from the same proficiency level. (Unfortunately, similar scores from the beginning of the semester were not available for gain score comparisons.)

Combined measures

Correlations were run in an effort to identify any significant relationships between any of the behavioral measures, perceived measures, and the written sample evaluations.

Table 3 about here

The critical level for statistical significance for a two-tailed test ($d.f = 5$) was .75. A look at the matrix indicates that there are no relationships of interest that reach statistical significance. However, there are a number of fairly strong trends that suggest further research (where larger N sizes might offer significant results with regard to the questions posed in this pilot study).

Looking more closely at the component measures of the holistic scoring scheme, it appears that the "content" scale correlates almost perfectly with the total overall score, and this inspite of the fact that it is not by far the largest component by weight. In contrast, the "mechanics" component seems decidedly negative in most of its correlations. The small range and the spread on this scale is a most likely explanation.

Inspection of several of the more interesting observed behavior scores from Table 4 (# of words/GT sequence, and # of GT sequences longer than 1 minute) reveal a number of strong correlations with the holistic measures of content, organization, and writing score overall. It would appear that there

are strong positive relationships between fluency measures and the more global measures of writing ability (content, organization, and overall score).

As might be expected, the number of minutes devoted to writing (generation of text-GT) is strongly correlated with the measures of writing performance. The interruption of text generation sequences with rescanning seemed not to correlate with the quality of content, organization, and overall score as was suspected.

This latter relationship deserves further research and fine tuning however. It seems plausible that there could be differing results depending on the focus of the rescanning. (i.e., searching for surface errors vs. rereading for idea flow). Think-aloud techniques would be more effective in ferreting this information out. The two items of the questionnaire that elicited information about the subject's focus when revising (next to last category in Table 3) proved to be unreliable. This self-report variable showed little if any correlation with any of the other measures.

One of the most interesting measures was the self-reported measure of disfluency (last category in Table 3) consisting of seven questionnaire items (e.g. did they write and proofread one sentence at a time, *et cetera*). Although this self-report measure had no correlation with any of the observed measures of composing behavior, it had a decidedly negative correlation with the writing proficiency measures (i.e., greater perceived disfluency resulted in lower proficiency scores as measured by the revised Jacobs *et al* scheme).

DISCUSSION & CONCLUSIONS

Like any good pilot study, this study suggests further research in several

areas and seems to shut the door in others. Returning to the four research questions, the first asks whether or not the subjects are inordinately focusing on surface errors *during* text generation, (generally as L2 writers). The answer is no. Table 2 indicates wide variety on this point (ranging from interruption rates of 0% to as high as 48%). Other studies of L₂ learner strategy use have found similar patterns of idiosyncrasy (e.g. O'Malley *et al*, 1985; Sarig, 1985) suggesting that strategy use is highly individualistic.

The second question asks if this type of interruption interferes with the quality of the writing. The generally negative correlations of this variable with the other measures seems to suggest that it does, although studies with larger N sizes will be required to demonstrate the trend to be statistically significant.)

The third question asks whether or not subjects' perceptions of their behavior are reliable (layman's definition). Self-report data has been traditionally controversial. Is there a correlation with observed behavior? The answer from this set of data would indicate there is no correlation. It is possible however that the questionnaire items are not tapping the same constructs as the observed behaviors. Further research is needed in the study L2 writing in this regard.

The final question asked whether or not there were any significant differences in composing fluency between the two cultural groups (Chinese and Polynesian). A review of the data in Table 3 seems to indicate that there are no statistically significant differences. There was a consistent trend however, for the Chinese to be more fluent (across all four measures

reported). This trend may account for some of the significant difference between the cultural groups' mean writing proficiency scores. Again, with a larger follow-up study, these trends may reveal significant differences in how learners from these two backgrounds approach the writing task.

In sum, this pilot study suggests that fluency does have a positive influence on the quality of the written product. Before making this principle a result part of writing instruction, the following recommendations ought to be considered. In addition to increasing the size of the subject population, think-aloud protocols ought to be added to the data collection procedures of any follow-up investigations. This method of data collection would provide further insight into the nature and purpose of the pause and rescanning moves, thus providing data on the psychological processes underlying observed behavior. Such a refinement in data would allow for the identification of aspects of disfluency which are facilitating (if any) , and those which are not.

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References

- Arndt, V. (1987). Six writers in search of texts: A protocol-based study of L1 and L2 writing. *ELT Journal*, 41, 257-267.
- Beach, R. (1976). Self-evaluation strategies of extensive revisers and nonrevisers. *College Composition and Communication*, 27, 160-164.
- Blake, B. (1980). *The Composing Process of Adult Basic Writing Students*. Unpublished Dissertation. Columbia University Teachers College.
- Diaz, D. (1986). The writing process and the ESL writer: Reinforcement from second language research. *The Writing Instructor*, 4 (Summer), 167-175.
- Emig, J. (1971). *The Composing Processes of Twelfth Graders*. NCTE Research Report #13. Urbana, ILL: NCTE.
- Flower, L., Hayes, J., Carey, L., Schriver, K., & Stratman, J. (1986). Detection, diagnosis, and the strategies of revision. *College Composition and Communication*, 37, 16-55.
- Flower, L., & Hayes, J. (1981). A cognitive process theory of writing. *College Composition and Communication*, 32, 365-387.
- Hayes, J. & Flower, L. (1983). "Uncovering cognitive processes in writing: An introduction to protocol analysis. In P. Mosenthal, L. Tamor, & S. Walmsley (Eds.), *Research on Writing: Principles and Methods* (pp. 206-219). New York: Longman.
- Johns, A. (1990). L1 composition theories: Implications for developing theories of L2 composition. In B. Kroll (Ed.), *Second Language Writing* (pp. 24-36). Cambridge: Cambridge University Press.
- Krapels, A. (1990). An overview of second language writing process research. In B. Kroll (Ed.), *Second Language Writing* (pp. 37-56). Cambridge: Cambridge University Press. 37-56.

- Liebman-Kleine, J. (1987). Invention: Using ethnography in ESL writing classes. *ELT Journal* , 41, 104-111.
- Mischel, T. (1974). A case study of a twelfth grade writer. *Research in the Teaching of English* , 9, 303-314.
- Morgan, F.H. & Morgan, F. (1975). *Experiences*. New York: Harcourt, Brace, Jovanovich, Inc.
- Mosenthal P., Tamor L., & Walmsley, S. (Eds.). (1983). *Research on Writing: Principles and Methods* . New York: Longman.
- North, S. (1987). *The Making of Knowledge in Composition: Portrait of an Emerging Field* . Upper Montclair, NJ: Boynton/Cook Publishers, Inc.
- Perl, S. (1979). The composing processes of unskilled college writers. *Research in the Teaching of English* , 13, 317-337.
- Pianko, S. (1979). A description of the composing processes of college freshmen writers. *Research in the Teaching of English*, 13, 5-22.
- Raimes, A. (1983). Tradition and revolution in ESL Teaching. *TESOL Quarterly* , 17, 535-552.
- Raimes, A. (1985) What unskilled ESL students do as they write: A classroom study of composing. *TESOL Quarterly* , 19, 229-258.
- Raimes, A. (1986). Teaching ESL writing: Fitting what we do to what we know. *The Writing Instructor* 4 (Summer), 153-165.
- Seaman, A. (1975). Exploring early stages of writing development: A fourth grader writes. *The English Record* , 26, 40-46.
- Silva, T. (1990). Second language composition instruction: Developments, issues, and directions in ESL. In B. Kroll (Ed.). *Second Language Writing* (pp. 11-23). Cambridge: Cambridge University Press.

- Spack, R. (1984). Invention strategies and the ESL college composition student. *TESOL Quarterly* , 18, 649-670.
- Zamel, V. (1976). Teaching composition in the ESL classroom: What we can learn from research in the teaching of English. *TESOL Quarterly* , 10, 67-76.
- Zamel, V. (1983). The composing processes of advanced ESL students: Six case studies. *TESOL Quarterly* , 17, 165-88.
- Zamel, V. (1987). Recent research on writing pedagogy. *TESOL Quarterly* , 21, 697-715.

TABLE 1
Descriptive Composing Statistics

	Chinese Subjects				Polynesian Subjects			
	C1	C2	C3	C4	P1	P2	P3	P4
# Pre-Wtg. Sequences	2	10	5	3	11	13	9	9
# Composing Sequences	33	22	27	28	23	35	19	28
# Revising sequences	7	9	13	8	11	5	6	10
# of words	293	327	577	212	247	305	297	290
# of words/Comp. seq.	8.9	14.9	21.4	11.1	10.7	8.7	15.6	10.4
# of composing mins.	38.5	23	32	18	21	25	22	28
# of words per composing min.	7.6	14.2	18	11.8	11.8	12.2	13.5	10.4
#@ of GT min.	14.2	13.7	24.7	10.5	7.1	10.7	13.7	13.6
# of words/GT min.	20.6	23.9	23.4	20.2	34.8	28.5	21.7	21.3
# of GT seq. longer than 1 min. as a % of total GT	3 9%	3 13.6%	7 26%	4 21%	1 4%	2 5.7%	4 31.6%	6 14.3%
# of RS during composing as a % of GT seq.	10 30.0%	3 13.6%	2 7.4%	4 21.0%	11 48.0%	5 14.3%	0 0.0%	5 17.8%

TABLE 2.
Mean Score Comparisons by Culture

	Chinese mean score	Polynesian mean score	t-test results at p.05 level
# of words in composing sequence	14.1	11.35	n.s.
# of Rs moves as a percent of GT sequences	18.10%	20%	n.s.
% of GT moves longer than 1 minute	17.40%	13.90%	n.s.
# of GT minutes total	15.78%	11.28%	n.s.

TABLE 3
Correlations between process factors and product scales

	Cont.	Org	Vocab	Lang.	Mech.	TOTAL	words/ GTseq.	% seq. 1+ min. with Rs	GT mins.	focus on syntax	dis- fluency
Content	1.00										
Organization	.81	1.00									
Vocab.	.64	.30	1.00								
Lang. Use	.91	.68	.77	1.00							
Mechanics	-.83	-.75	-.54	-.80	1.00						
TOTAL	.94	.77	.76	.99	-.83	1.00					
# wds/GT seq.	.60	.43	.44	.31	-.41	.41	1.00				
%GT seq.>1mir	.57	.57	-.03	.24	-.40	.32	.78	1.00			
%GT w/Rs	-.24	-.08	.24	.07	-.12	.04	-.56	-.79	1.00		
# of GT mins.	.67	.55	.38	.38	-.27	.48	.80	.66	-.58	1.00	
syntax focus	.17	.30	.08	.24	-.05	.24	.19	.38	-.21	.01	1.00
disfluency	-.64	-.30	-.37	-.68	.52	-.63	.00	-.05	.09	-.28	.37

Appendix A

Behavior Protocol Code Terms

Planning/Outlining	(PO)
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Pausing

Filled - Thinking	(PF)
-------------------	------

Unfilled - Distraction	(PU)
------------------------	------

Rescanning (portions)	(Rs)
-----------------------	------

Rereading (entire text)	(RR)
-------------------------	------

Writing

Generating Text	(GT)
-----------------	------

Revising Text	(RT)
---------------	------

Appendix B

Name: _____

ESL Writing Questionnaire

Answer each question by placing an "X" in the space that best describes you or your opinion.

	almost always	often	some- times	almost never
1. I waste too much time before I start writing.	—	—	—	—
2. I outline or list my ideas first before writing.	—	—	—	—
3. Once I begin to write, I stay strictly with my plan.	—	—	—	—
4. I try to write and then proofread just one sentence at a time.	—	—	—	—
5. When I read what I've written, I'm mostly concerned about the grammar or spelling.	—	—	—	—
6. I follow my outline, even if new ideas come to my mind.	—	—	—	—
7. I often lose my concentration or get distracted when I write.	—	—	—	—
8. When I proofread, I usually go with what "sounds" right, rather than applying specific grammar rules.	—	—	—	—
9. I try to communicate my ideas correctly so I don't have to revise or edit my writing later.	—	—	—	—
10. My mind often goes blank when I'm given a writing assignment.	—	—	—	—
11. I only use my dictionary after I've finished writing.	—	—	—	—
12. While I'm writing, I often reread to check for grammar and word choice.	—	—	—	—
13. Rereading sometimes gives me new ideas or directions, so I change my plan or outline.	—	—	—	—
14. I have a hard time turning my writing into the teacher at the end of the class.	—	—	—	—
15. I'm usually satisfied with my writing when I hand it in.	—	—	—	—
16. Sometimes I pretend to be someone else reading my writing.	—	—	—	—

	almost always	often	some- times	almost never
17. I try to follow a strict schedule when I write: planning --> writing --> proofreading.	—	—	—	—
18. I usually think in my native language when I'm planning or outlining.	—	—	—	—
19. When I receive a topic to write on, I sit there until an idea comes and then I write.	—	—	—	—
20. I check my spelling carefully as I'm writing each sentence.	—	—	—	—
21. I try to write several sentences at a time before I stop to read what I have written.	—	—	—	—
22. When I begin writing, I try not to stop until I am finished, and ready to proofread.	—	—	—	—
23. I write a lot on my own. (for personal reasons)	—	—	—	—
24. Speaking well is more important than writing in my culture.	—	—	—	—
25. I'll be writing a lot in my future profession.	—	—	—	—

Appendix C
(Sample Timeline)

Name: _____ Date: _____

PF PO PF PO PF GT PF GT 5 mins.

PF GT PF GT PF GT PF 10 mins.

GT PF GT PF GT PF GT PU 15 mins.

PF GT Rs RT PF GT Rs PF GT Rs 20 mins.

GT PF GT PF GT PU Rs PF 25 mins.